efforts. See Appendix D for some of the diverse viewpoints on fish and wildlife recovery.

Independent Science Advisory Board (ISAB) Review

On August 22, 2001, the ISAB issued their Review of Salmon Recovery Strategies for the Columbia River Basin. The Review examined the four Northwest states Governors' Plan, the Council's 2000 Fish and Wildlife Program, the NMFS 2000 BiOp, and the Basinwide Recovery Strategy. In summary, the ISAB stated the following:

> Taken together, the four papers represent a realistic assessment of the problems facing salmon recovery in the Columbia River Basin. There is consistency in many of the kinds of recovery actions proposed in the documents, and the scientific bases for these actions are generally sound. However, the strategies as articulated in the papers usually lack details about how various recovery actions would be implemented (with the possible exception of actions related to mainstem passage) and as a consequence we were uncertain that the actions proposed in them will actually lead to salmon recovery. There is no doubt that the proposed strategies would result in some beneficial results for salmon, which is encouraging, but the status of many of the stocks has become very grave. Recovery documents containing *explicit and quantified details* are needed so that their sufficiency can be evaluated. We believe the four documents, collectively, fall short of providing this detail.[156]

2.3.2.5 Back to the Beginning: The Policy Decisions Change Over Time

Policy decisions, like the environment they address, are dynamic and change over time. The intent of this EIS is to show the many policy choices and their consequences. There will, however, be no one right choice for all agencies or constituents.

> "Society weighs policy choices in the context of prevailing values and preferences. Even with identical scientific information and the identical conditions of stocks, a salmon policy position from the end of the nineteenth century doubtless would be different than a current policy on salmon.…
>
> The search for the scientifically optimal policy solution will be futile because of changing values and preferences."[157]

As evidenced by the example of the Department of the Interior positions shown below, policies change, even within a single entity.

[156] ISAB 2001, p. iii.

[157] Lackey, R. T. 1996b.

Department of the Interior, 1946

"At the outset [the Department of the Interior] acknowledges that the decision must be made by Congress, with the thoughtful attention to the sentiment of the people of the region. The Department agrees that interests of the Columbia River fisheries should not be allowed indefinitely to retard full development of the other resources of the river. [The Department] concludes moreover that the overall benefits to the Pacific Northwest from … development of the Snake and the Columbia are such that the present salmon run must, if necessary, be sacrificed. This means to the Department that the Government's efforts should be directed toward ameliorating the effect of an ultimate, and inevitable full development of the river's resources upon the immediately injured interests and not toward a vain attempt to hold still the hands of the clock."[158]

Department of the Interior, 1999

"It is clear in our assessment that [drawdown of the four Lower Snake River dams] would provide many more benefits to fish and wildlife than the other alternatives…. Also, we believe [drawdown] would best increase survival of juvenile anadromous fish …. [I]t is the only alternative that addresses restoration of natural or near natural riverine conditions which would produce a myriad of positive influences on natural processes and fish and wildlife. Therefore, based on our biological evaluation of the [Corps of Engineers' Lower Snake River Feasibility Study Draft EIS], the U.S. Fish and Wildlife Service concludes that the benefits to fish and wildlife from [drawdown] exceed the benefits provided by the other alternatives."[159]

Such examples serve as a reminder that policies are temporal and transient. An agency's policy choice today may be the source of problems future generations try desperately to solve. Given the multitude of variables, interests, and the impossibility of keeping current on all the potential effects from a policy decision, this EIS can only inform what decisions are made. It cannot predetermine what decisions should be made, who should make them, or how they should be implemented.

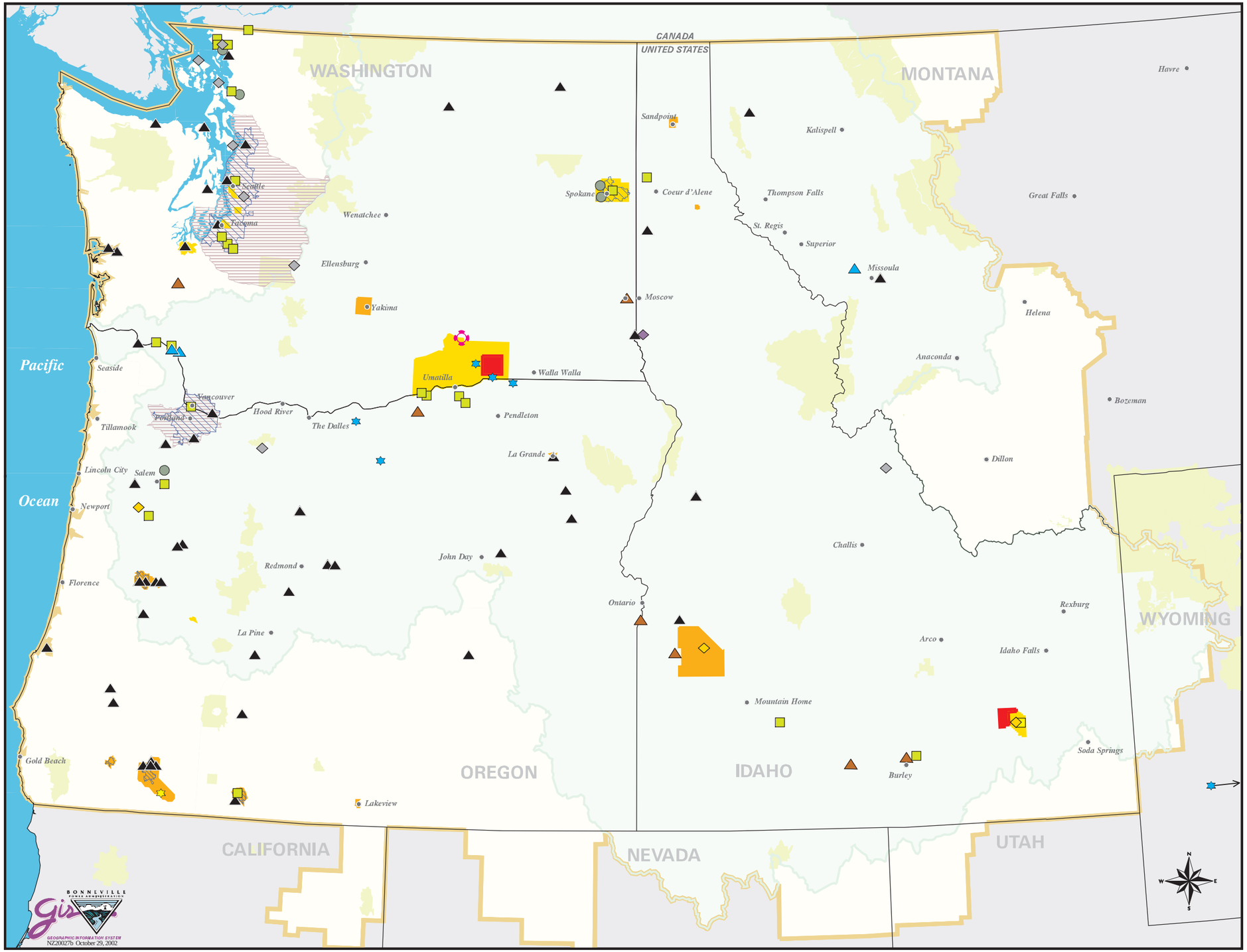
➲ **Chapter 3 describes and compares the alternative Policy Directions assembled from the many regional processes currently working to address the uncoordinated and inefficient Status Quo Policy Direction.**

[158] Bessey, R.F. 1947.

[159] Corps 2002b, at Appendix M, p. ES-2.

Figure 2.6

Air Quality and Non-Hydro Generation



Legend

Columbia River Basin

BPA Service Area

PM10 (particualte matter less than 10 micrometers)

- Maintenance
- Moderate
- Serious

CO (carbon monoxide)

- Maintenance
- Moderate

O3 (ozone)

- Maintenance

Federal Class I Area

Thermal Plants (primary fuel type)

- Coal
- Oil
- Gas
- Biomass*
- Nuclear
- Municipal Solid Waste
- Black Liquor
- Raw Sulfur
- Biogas / Methane
- Multiple types

* Some biomass can be considered renewable.

Renewable Plants (primary fuel type)

- Solar
- Wind

Disclaimer: Map to be used for general display purposes only and not intended to represent any legal boundaries or information. Created with best available data at time of plot date.

Source: Non - Attainment Areas from EPA - Region 10, Class I Federal Areas from 40 CFR Sec. 81.400 et seq. (2001), BPA Regional GIS Database, 2002.

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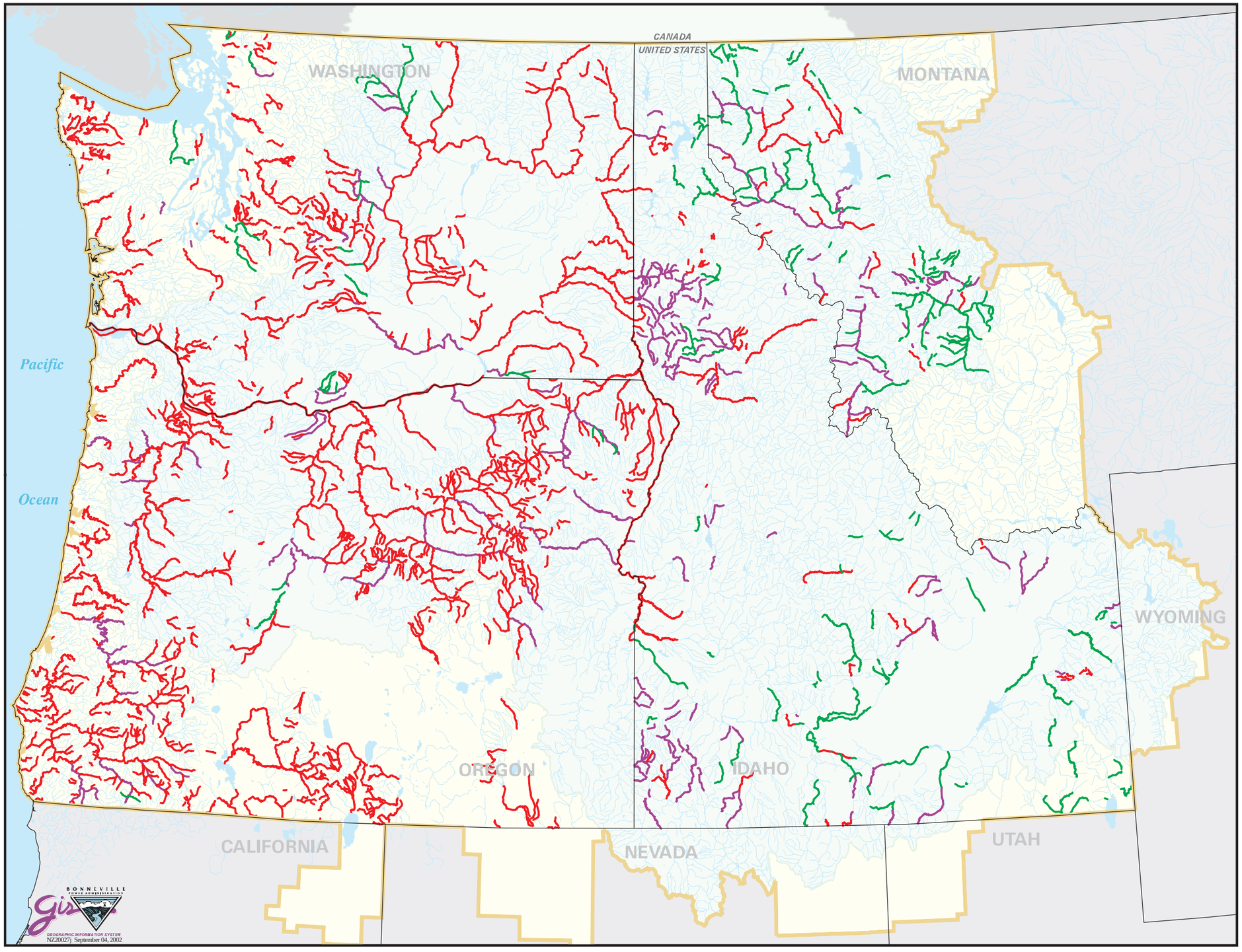
Figure 2.7

Water Quality Impaired Rivers - Section 303(d) - Clean Water Act



Legend

- Columbia River Basin
- BPA Service Area
- Flow Limited
- Temperature Limited
- Flow and Temperature Limited

Disclaimer: Map to be used for general display purposes only and not intended to represent any legal boundaries or information. Created with best available data at time of plot date.

Source: Oregon Department of Environmental Quality, Water Quality Program; Washington Department of Ecology, Water Quality Program; Idaho Department of Environmental Quality, Water Quality Program; BPA Regional GIS Database, 2002.

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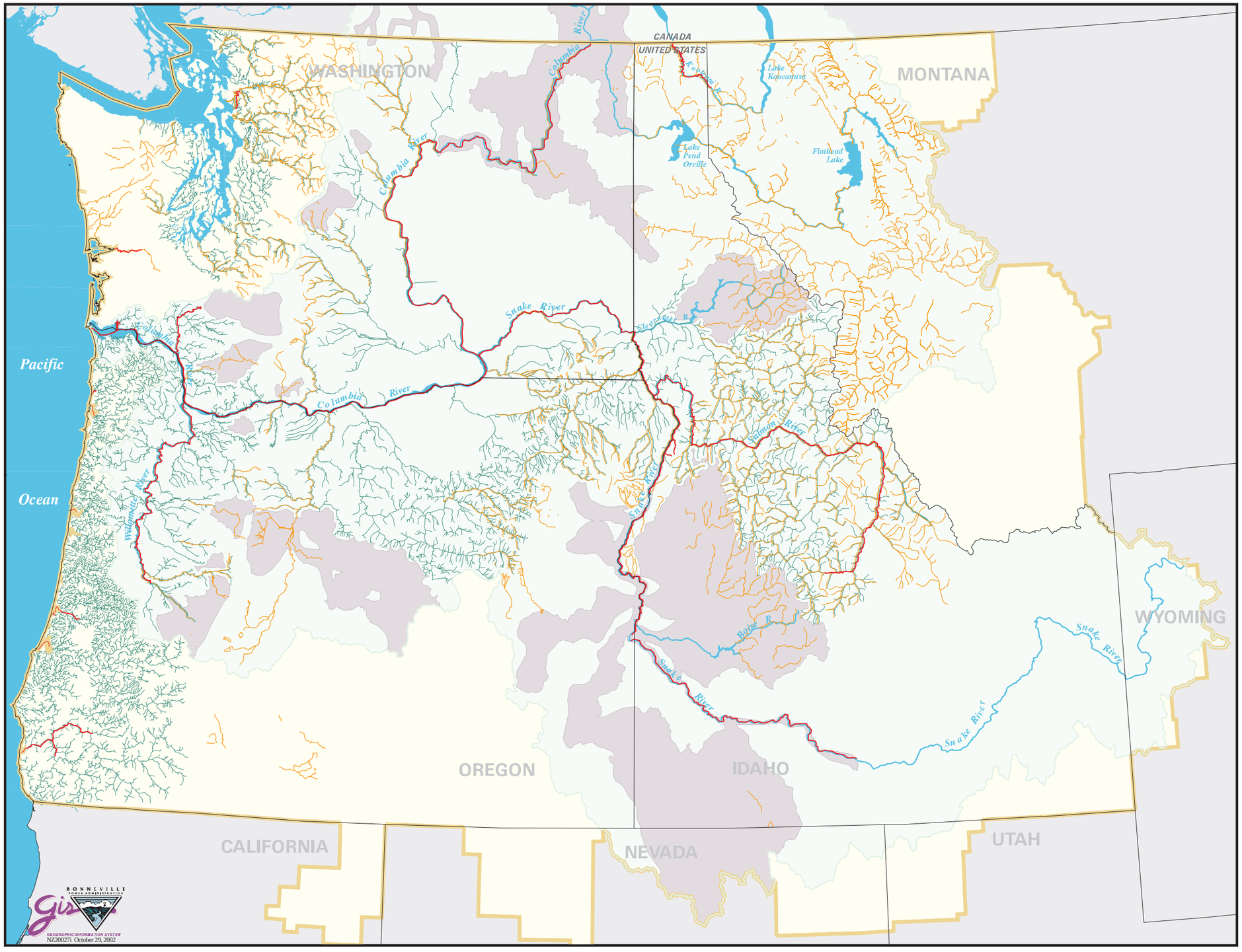
Figure 2.8

Listed Anadromous and Resident Fish Distribution



Legend

Columbia River Basin

BPA Service Area

Historic Range

Anadromous Fish Extinct

Present Range

Listed Anadromous Fish Species

Listed Resident Fish - Bull Trout

Listed Anadromous & Resident Fish - Sturgeon

Note: Fish distribution is generalized and actual historic and present ranges may differ.

Disclaimer: Map to be used for general display purposes only and not intended to represent any legal boundaries or information. Created with best available data at time of plot date.

Source: Oregon Department of Fish and Wildlife; Washington Department of Fish and Wildlife; Idaho Fish and Game; Montana, Fish, Wildlife and Parks; StreamNet; BPA Regional GIS Database, 2002.

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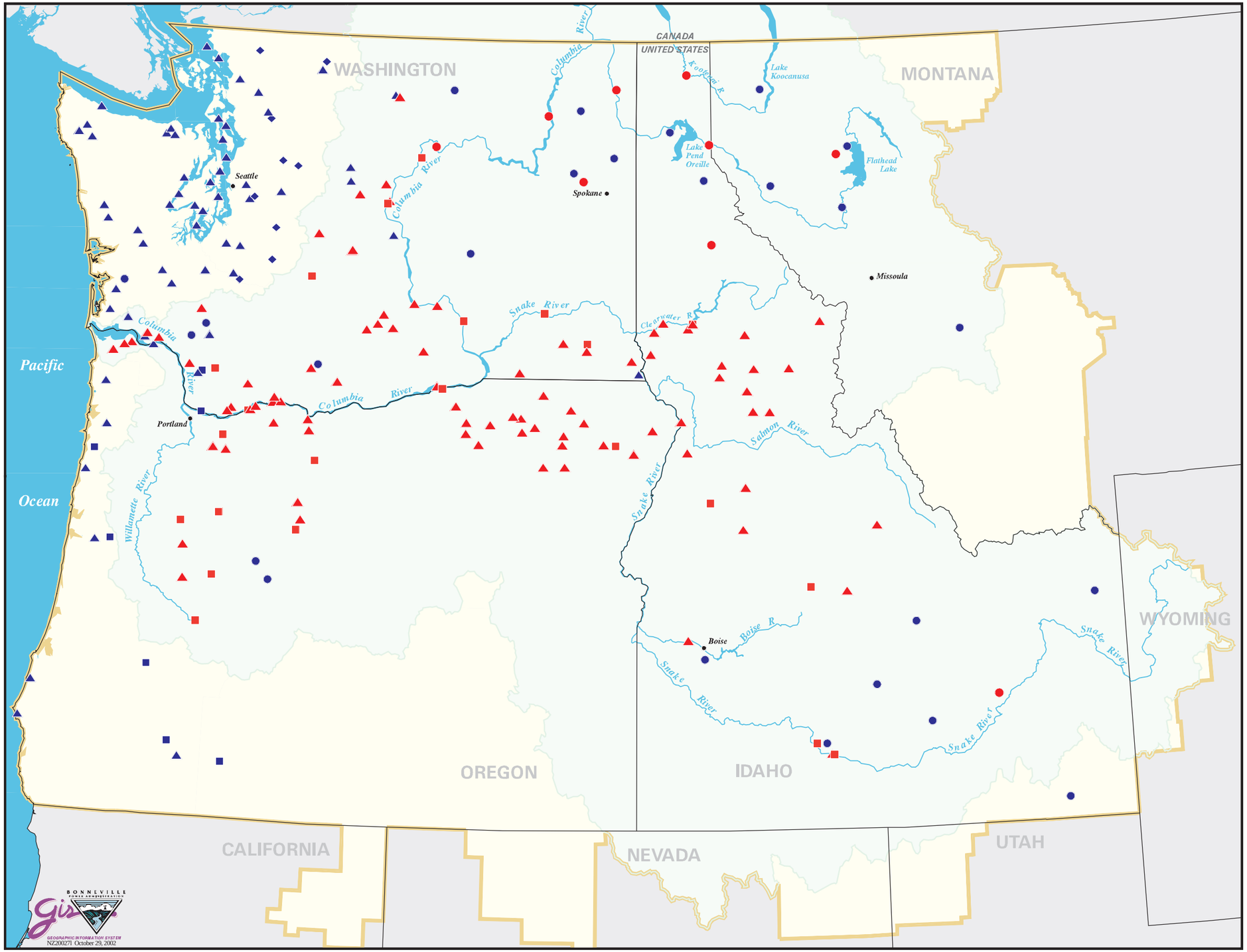
Figure 2.9

Hatcheries



Legend

Columbia River Basin

BPA Service Area

Hatcheries*
(by type)

△ Anadromous Fish

○ Resident Fish

□ Both Anadromous and Resident

◇ Unspecified

* Locations are approximate.

BPA Funded Hatcheries in Red
Non-BPA Funded Hatcheries in Blue

Disclaimer: Map to be used for general display purposes only and not intended to represent any legal boundaries or information. Created with best available data at time of plot date.

Source: BPA Regional GIS Database, 2002.

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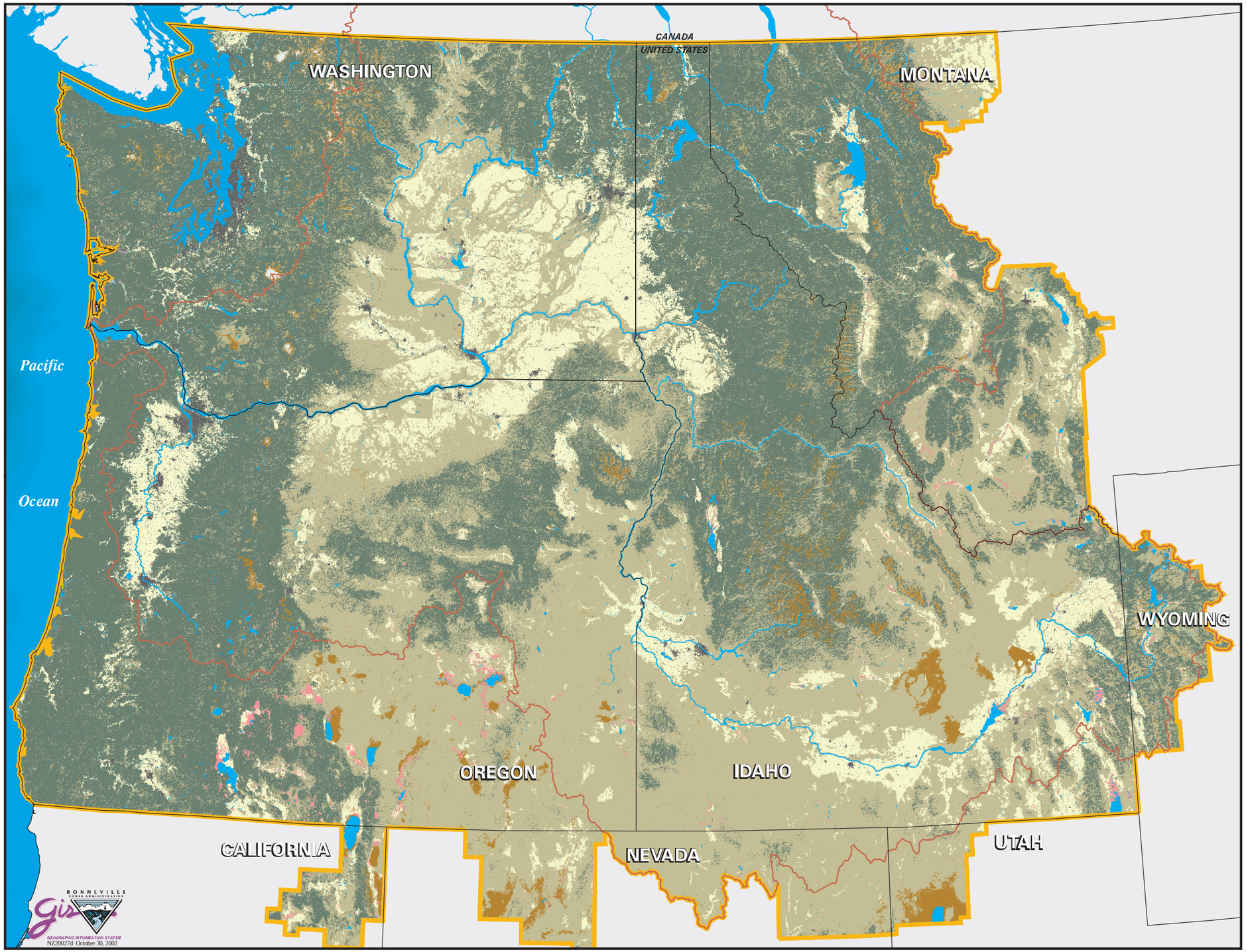
BONNEVILLE POWER ADMINISTRATION
GIS
GEOGRAPHIC INFORMATION SYSTEM
NZ200271 October 29, 2002

Figure 2.10

Land Use for the Pacific Northwest



Legend

- Columbia River Basin
- BPA Service Area Boundary

Land Use

- Residential and Commercial
- Bare Lands and Mining Areas
- Forest Lands
- Shrublands, Grasslands and Transitional Lands
- Agricultural Lands
- Wetlands

Disclaimer: Map to be used for general display purposes only and not intended to represent any legal boundaries or information. Created with best available data at time of plot date.

Source: Land Use data from US Geological Survey; BPA Regional GIS Database, 2002.

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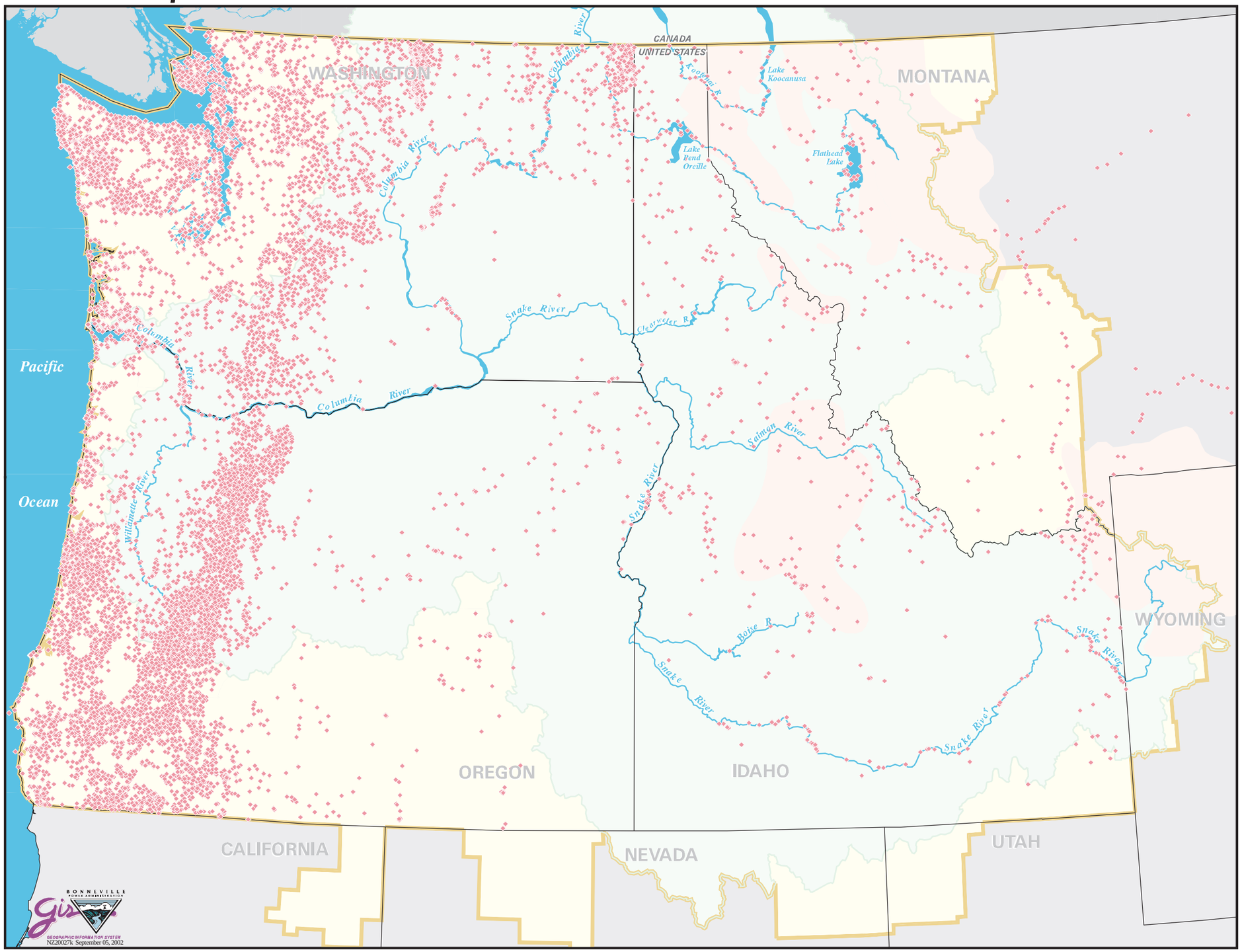
Figure 2.11

Listed Wildlife



Legend

Columbia River Basin

BPA Service Area

Federally Listed Threatened or Endangered Animal Species Territory

Note: Some species may have broad roaming ranges.

Federally Listed Threatened or Endangered Wildlife Observation

Disclaimer: Map to be used for general display purposes only and not intended to represent any legal boundaries or information. Created with best available data at time of plot date.

Source: Idaho Conservation Data Center; Montana Natural Heritage Program; Oregon Natural Heritage Program; Washington Department of Fish & Wildlife; BPA Regional GIS Database, 2002.

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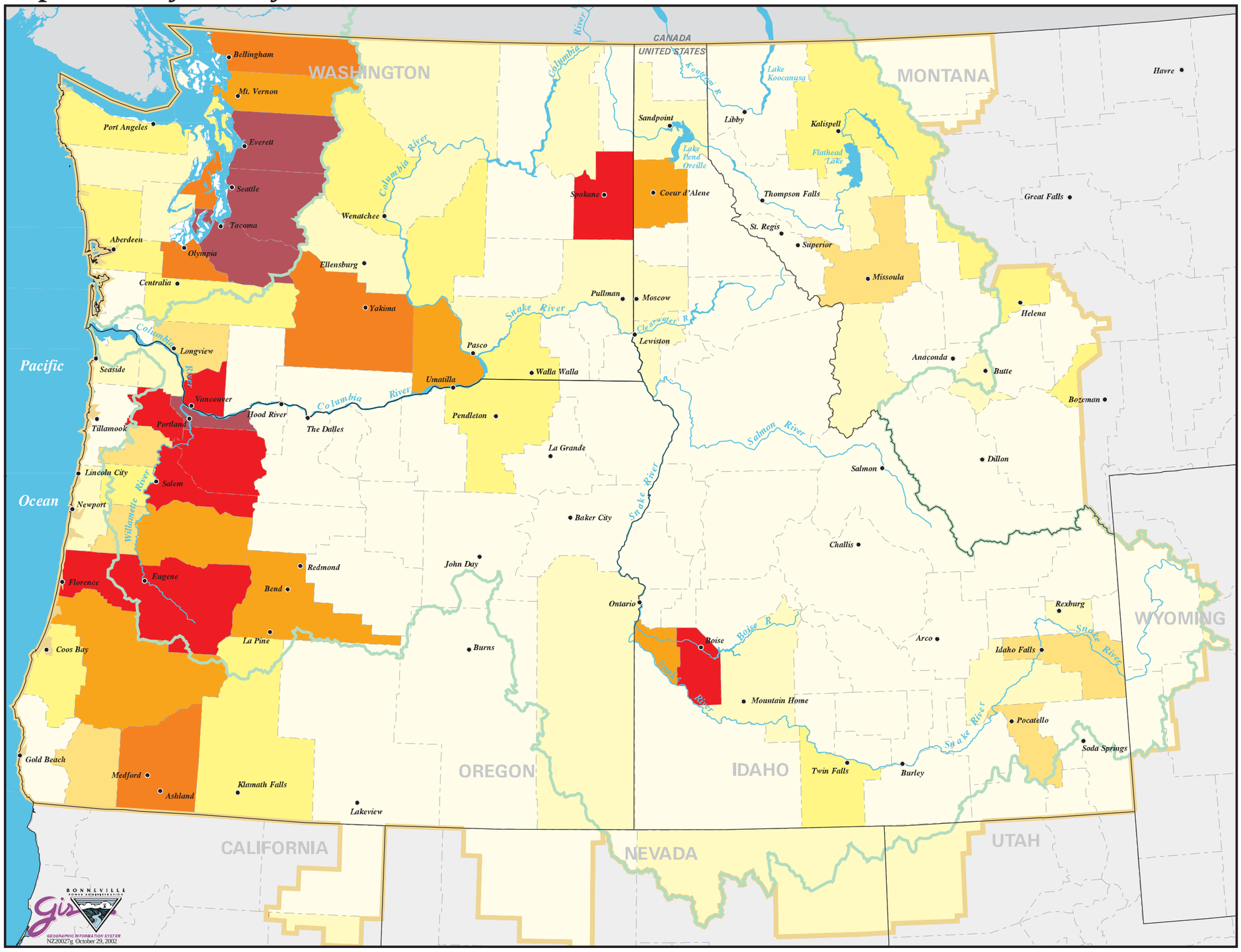
Figure 2.12

Population by County



Legend

Columbia River Basin

BPA Service Area Boundary

POPULATION BY COUNTY
(2000 totals)

- < 24,999
- 25,000 - 49,999
- 50,000 - 74,999
- 75,000 - 99,999
- 100,000 - 149,999
- 150,000 - 249,999
- 250,000 - 499,999
- > 500,000

Disclaimer: Map to be used for general display purposes only and not intended to represent any legal boundaries or information. Created with best available data at time of plot date.

Source: US Census Bureau, 2000 Census of Population, Public Law 94-171; BPA Regional GIS Database, 2002.

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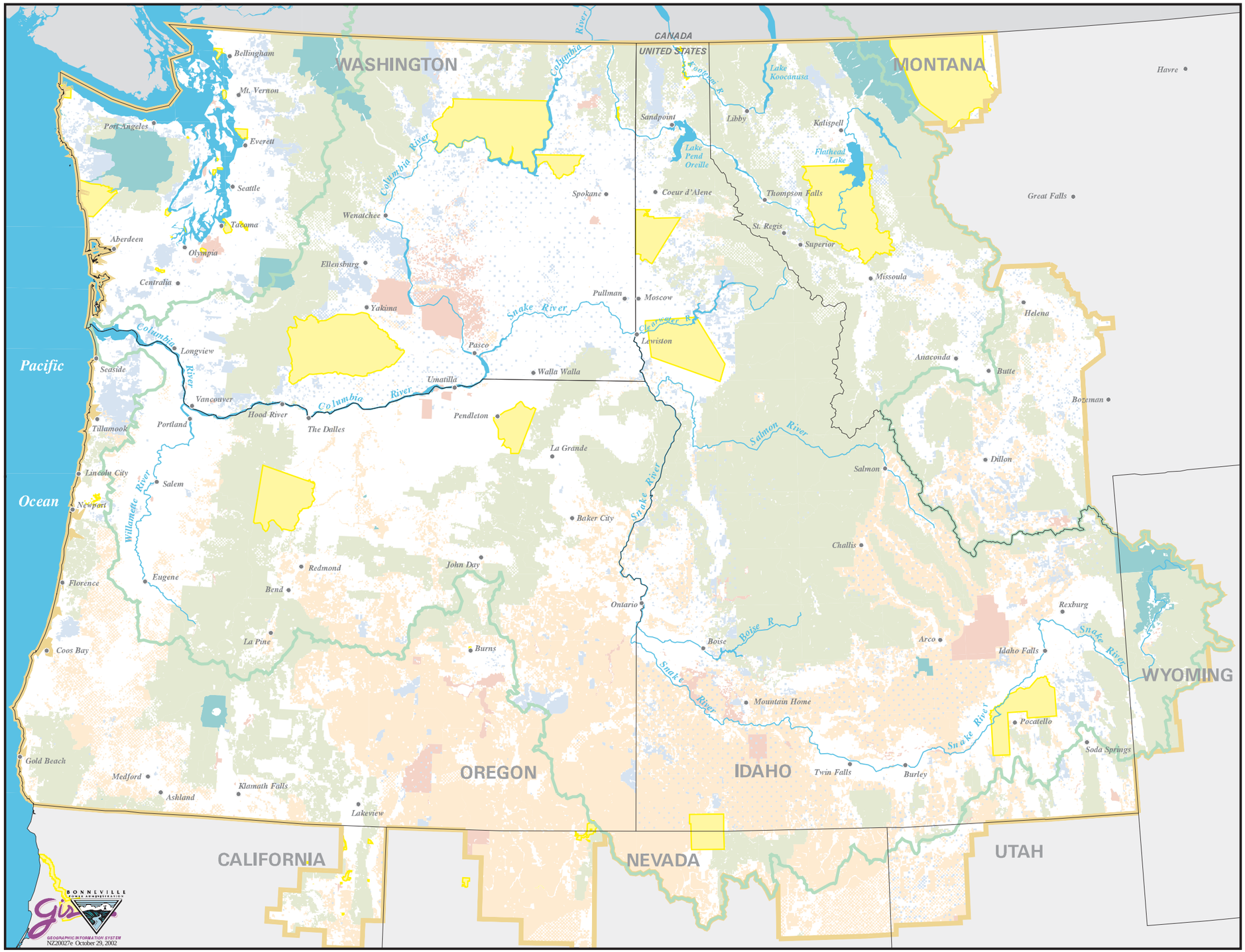
Figure 2.13

Land Ownership



Legend

- Columbia River Basin
- BPA Service Area Boundary

Land Ownership

- Forest Service
- BLM
- National Park Service
- Other Federal Lands
- State Lands
- Tribal Lands

Disclaimer: Map to be used for general display purposes only and not intended to represent any legal boundaries or information. Created with best available data at time of plot date.

Source: Interior Columbia Ecosystem Management Project (ICBEMP); Montana State Library Natural Resource Information System; BPA Regional GIS Database, 2002.

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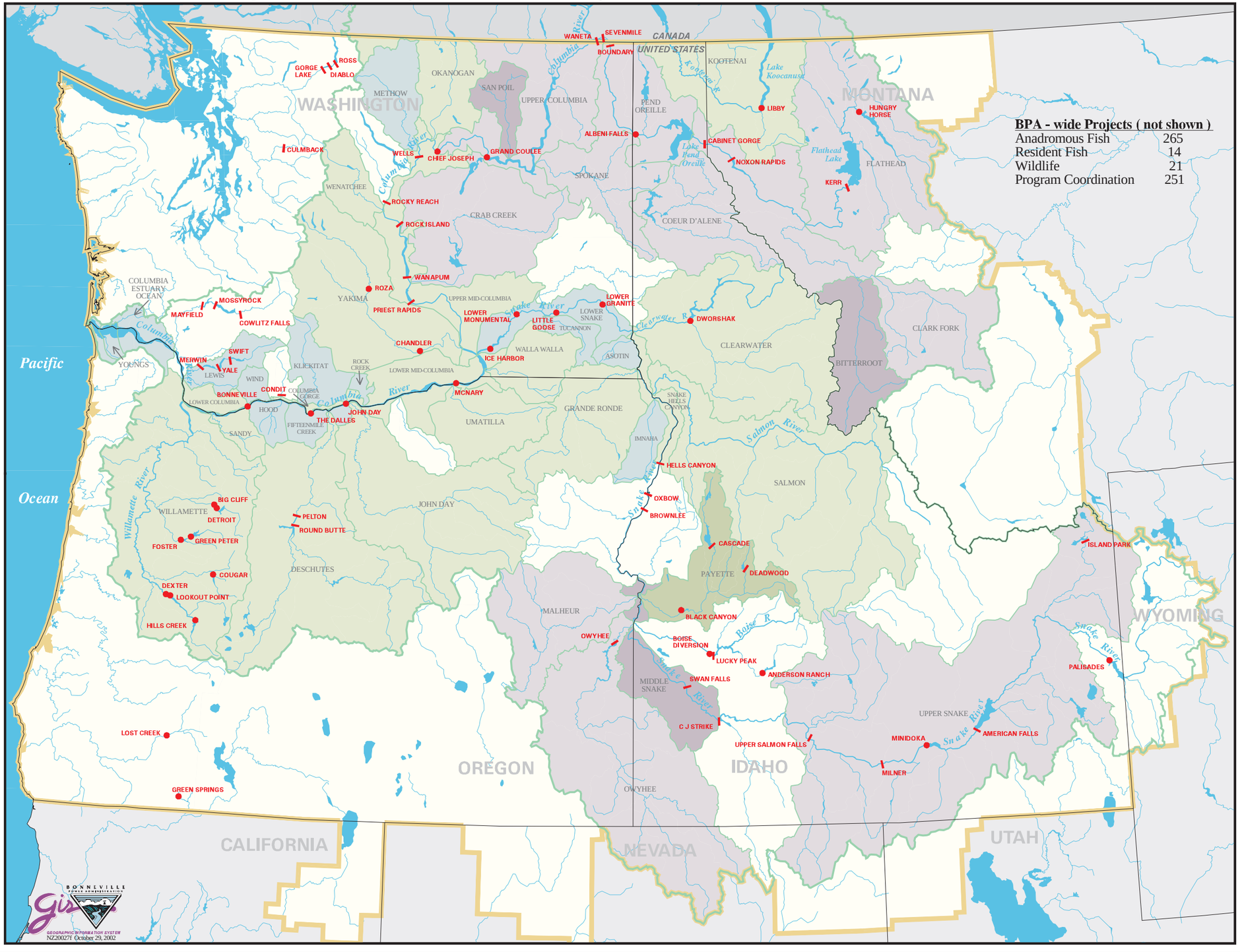
BONNEVILLE POWER ADMINISTRATION
GIS
GEOGRAPHIC INFORMATION SYSTEM
NZ20027e October 29, 2002

Figure 2.14

BPA Fish & Wildlife Projects by Subbasin / Hydro Sites



Legend

Columbia River Basin

BPA Service Area

Projects by Type

Anadromous Fish

Resident Fish

Wildlife

Resident Fish & Wildlife

Multiple Types
(Anadromous Fish, Resident Fish, Wildlife and Program Coordination)

Non - Federal Hydro Site

Federal Hydro Site

Disclaimer: Map to be used for general display purposes only and not intended to represent any legal boundaries or information. Created with best available data at time of plot date.

Source: BPA Regional GIS Database, 2002.

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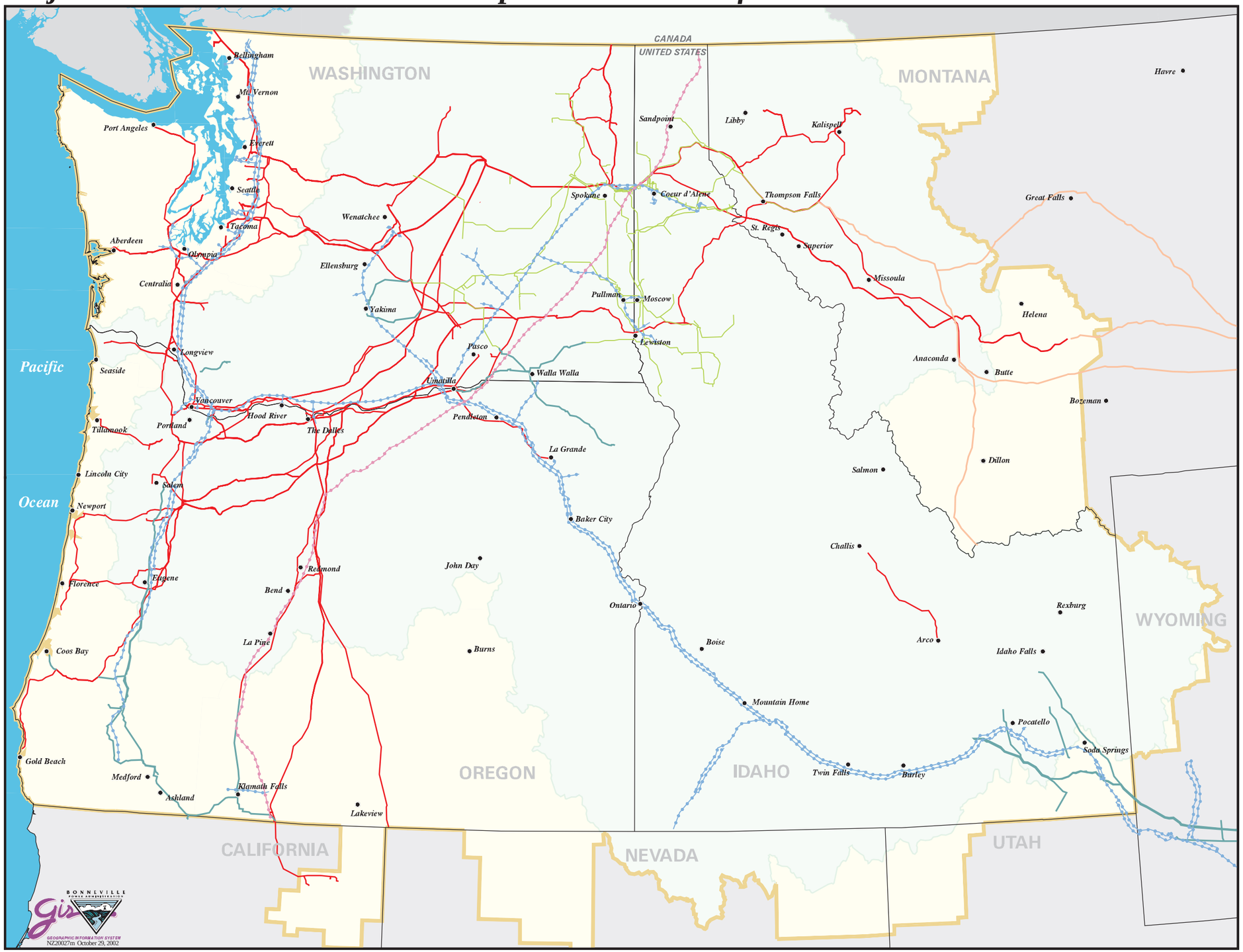
Figure 2.15

Major Transmission Lines and Gas Pipelines in the Pacific Northwest



Legend

Columbia River Basin

BPA Service Area

Gas Pipelines by Owner

- Northwest Pipeline Corp.
- Pacific Gas Transmission
- WP Natural Gas
- Washington Natural Gas
- Cascade Natural Gas
- Intermountain Gas

Transmission Lines by Owner
(230kV and higher)

- Bonneville Power Administration
- Montana Power Co.
- PacifiCorp.
- Avista Corp.

Disclaimer: Map to be used for general display purposes only and not intended to represent any legal boundaries or information. Created with best available data at time of plot date.

Source: Northwest Pipeline Corp., Pacific Gas Transmission Co., The Montana Power Company, PacifiCorp; Avista Corp., BPA Regional GIS Database, 2002.

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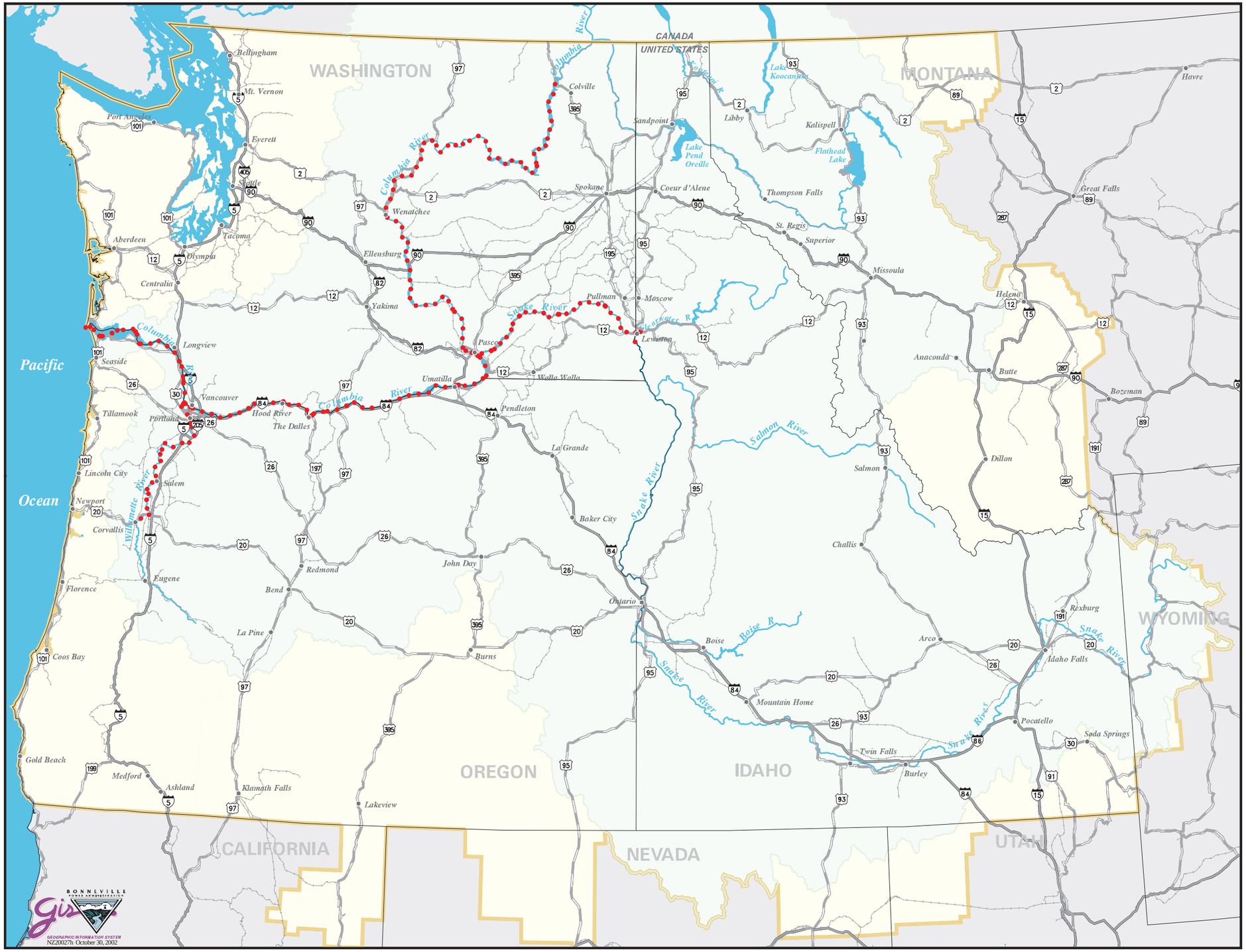
Figure 2.16

Major Transportation Routes



Legend

- Columbia River Basin
- BPA Service Area
- U.S. Highway
- Interstate Highway
- Railroad
- Navigable Channels for Commerce

Disclaimer: Map to be used for general display purposes only and not intended to represent any legal boundaries or information. Created with best available data at time of plot date.

Source: Navigable channels from US Geological Survey; BPA Regional GIS Database, 2002.

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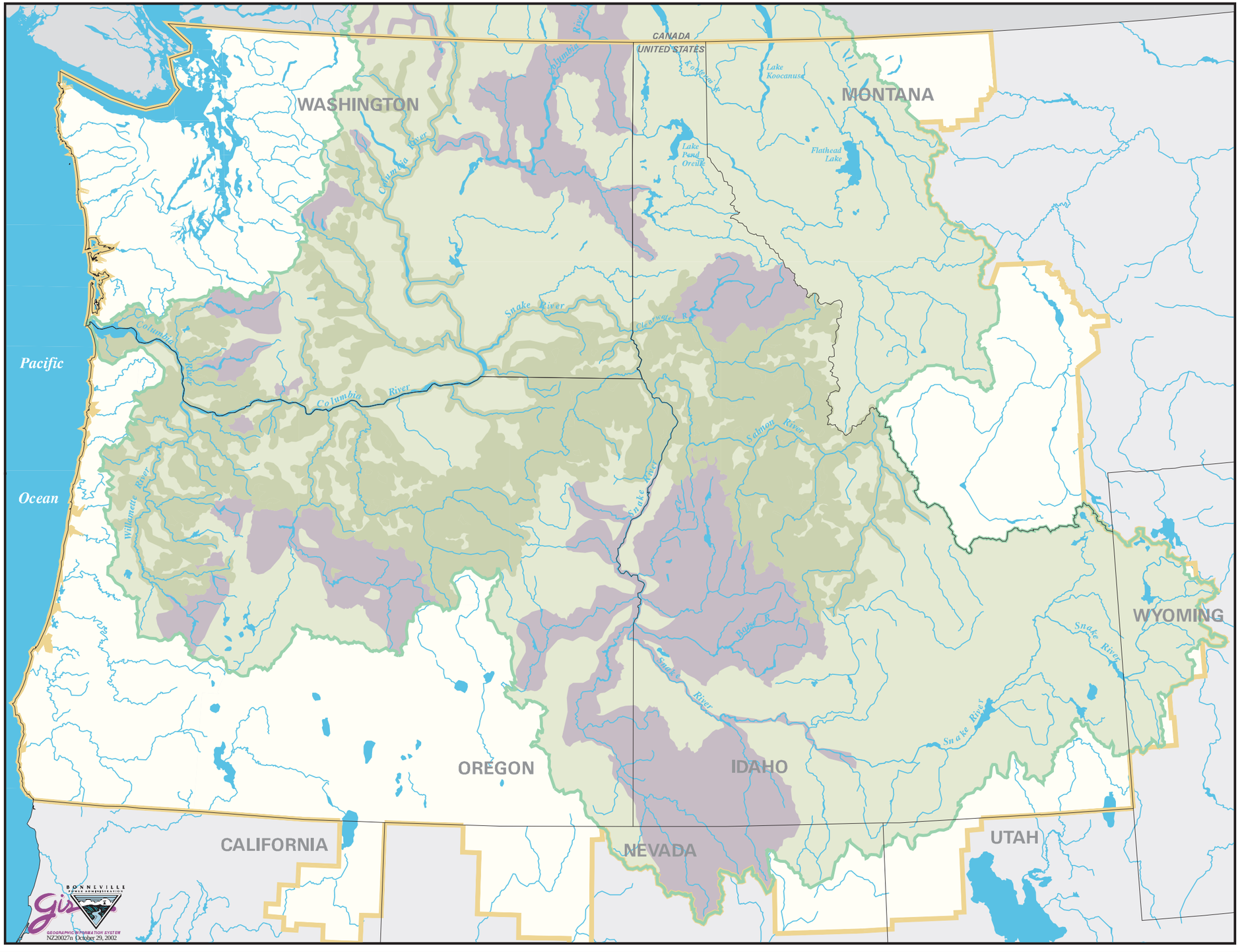
Present and Historic Range of Anadromous Fish in the Columbia River Basin (approximate)



Legend

- Columbia River Basin
- BPA Service Area
- No Historical Fish due to Natural Barriers
- Anadromous Fish Present
- Anadromous Fish Extinct

Disclaimer: Map to be used for general display purposes only and not intended to represent any legal boundaries or information. Created with best available data at time of plot date.

Source: BPA Regional GIS Database, 2002.

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